

Rhode Island Department of Education

Mathematics Science Partnership (MSP) Title IIB

**A Competitive Request for Proposals
For Districts Identified as High-Need School Districts* and
Institutions of Higher Education**

PRIMES

**Partnerships and Research Investigations
with Mathematicians, Engineers and
Scientists**

May 2006

**Fostering and Sustaining Standards-Based
Teaching and Learning**

*Serves no fewer than 10,000 children from families with incomes below the poverty line or a school district from which 20 percent of the children are from families with incomes below the poverty line; and have a high percentage of teachers not teaching in the academic subjects or grade levels that the teachers were trained to teach or that a high percentage of teachers with emergency, provisional, or temporary certification or licensing.

PROJECT OVERVIEW

Each state has been given **Title II, Part B; Mathematics and Science Partnership (MSP)** funds to improve the teaching and learning of mathematics and science through partnerships with institutions of higher education and school districts. The intent of **Partnerships and Research Investigations with Mathematicians, Engineers and Scientists (PRIMES)** is for higher education faculty members from the arts and sciences and education departments, secondary mathematics and science teachers, guidance counselors, special needs and English language learner educators, families, and business community members to work collaboratively to improve the quality of mathematics and science education in middle and high schools. The message is clear that the greatest need is to make the learning of mathematics and science relevant and accessible for all students. The focus of this initiative is to provide the opportunity for all students to engage in learning and applying rigorous mathematics and science concepts and skills to solve problems. PRIMES stresses the importance of having high expectations that all students can be successful, holding students accountable for their learning, and demonstrating their competence through performance tasks.

PRIMES will focus on the four goals identified in the MSP guidelines as well as a strong family and business involvement to achieve the identified goals. Middle and high schools will look to enhance the teaching and learning of mathematics and science through the application of technology and engagement in engineering tasks. With Rhode Island's Proficiency-Based Graduation Requirements (PBGRs) under the new High School Diploma System fully implemented by 2008, the middle and high schools participating in PRIMES will benefit from the alignment of the two initiatives. Since secondary schools need to address the high dropout rate of its students, this RFP is seeking schools and partners who are willing to modify the existing school conditions to provide a more flexible structure for teachers, guidance counselors, principals, families, businesses, and higher education faculty to enhance the teaching and learning of mathematics and science and enable all students to perform at high standards.

The Grade Level Expectations (GLEs) and Grade Span Expectations (GSEs) in mathematics, science, and English language arts as well as, the state and local assessments and statewide curricula will guide the work of PRIMES. The MSP funds will be targeted to improving the teaching and learning of mathematics and science in low performing, high poverty middle and high schools.

The MSP funds must be distributed through a competitive process and have school districts and higher education faculty from the arts and sciences departments identified in the proposals. The intent is to fund the successful proposals for a period of three years contingent upon continued federal funds and successful implementation of proposals activities.

GOALS, OBJECTIVES AND BENCHMARKS

All partners are learners as well as supporters with expertise in their field. Each of the partners will provide professional development for the teachers, administrators, families, and each other throughout this initiative. The collective expertise of all the partners is needed to build a system that truly addresses the issues at hand. Families, faculty from higher education institutions, and business members will play a major role in helping middle and high schools address the teaching and learning of mathematics and science for all students.

The goals of Title II, Part B, MSP and PRIMES are to:

- Improve student performance in high-quality mathematics and science by all students in grades 6-12.
- Improve teacher quality and ability to teach all students high levels of mathematics and science for understanding.
- Build school capacity to lead and support standards-based teaching and learning.
- Build community partnerships to establish strong grade 6-16 partnerships, school business partnerships, higher education and business partnerships, and family school partnerships that support mathematics and science education throughout the state.

Improving student performance in high-quality mathematics and science by all students in grades 6-12, with special emphasis on closing the achievement gap between traditionally well-served and traditionally under-served populations is of the highest priority and the **first goal** of this initiative. Since teachers with deep knowledge of mathematics and science are able to engage all students in rich mathematical [and scientific] experiences (Borko & Putnam, 1996; Fennema & Franke, 1992; Thompson & Zeuli, 1999; Ma, L. 1999), one objective of this initiative is to improve middle and high school teachers' knowledge of mathematical and science concepts and skills and their ability to teach mathematics and science in a rich environment so that all students learn high levels of mathematics and science. Instructional strategies that focus on a learner-centered approach to teaching enable students to reflect on their thinking and gain a deep understanding of mathematical and science concepts (Ma, L. 1999; Carpenter & Fennema, 1992; Carpenter, Fennema, & Franke, 1996).

Implementing standards-based mathematics and science programs as prescribed by the partners is another means of enhancing teachers' ability to get all students to reach high standards (Cawelti, G. 1999; Goldsmith, L. T., Mark, J., & Kantrov, I. 1998; Hiebert, J. 1999; National Council of Teachers of Mathematics, 2000). Exemplary mathematics and science programs build in teacher support and strategies for on-going professional development and provide suggestions to help students learn.

The benchmarks for identifying progress are many. **First**, student performance as measured by the New England Common Assessment Program (NECAP) and/or New

Standards Reference Examination in Mathematics will increase by at least 3% each year. The state will have a science assessment in 2007-2008 school year, and will use these results to determine student achievement and progress. To close the equity gap, students performing in the lowest levels of the exam will increase by at least 5% each year. Student performance on the Balanced Assessment Tests for mathematics will also show similar student gains. Students in grades 6-8 and grade 11 will be assessed. **Secondly**, all participating schools will implement the GLEs/GSEs for mathematics, science, and English language arts and standards-based mathematics and science programs. While some schools have already identified a standards-based program that they will be implementing, other schools will need to select standards-based mathematics and science programs using selected criteria. The strength of the partnerships formed among the participating middle and high schools, RIMLE, institutions of higher education, businesses, families, and the Rhode Island Department of Education is the **third** benchmark.

Another goal is that of improving teacher quality and ability to teach all students high levels of mathematics and science for conceptual understanding. This goal will be accomplished through providing a support system to nurture and enhance teachers' ability to teach. This system includes providing teachers and staff with opportunities to engage in exemplary professional development to address the issues of teaching and learning mathematics and science for understanding and building systemic support within each of the districts and schools. Mathematicians, scientists, engineers, and higher education faculty members along with mathematics and science consultants will provide these professional development opportunities.

The benchmarks for this goal include having increased participation of mathematics and science teachers in professional development over the duration of the project with a target of 90% of the mathematics and science teachers fully participating. Special education, technology, and Limited English Proficient teachers, administrators, and guidance counselors will also participate in PRIMES. Common planning time for teachers to meet and engage in various professional development opportunities, teachers engaging in 100 hours of professional development for each year of participation in this initiative, and improved results of teacher content knowledge in mathematics and science as demonstrated by the ETS Mathematics and Science Teacher Tests, and effective lesson reports as determined by the Horizon Research protocol for looking at effective classrooms are also benchmarks for this goal.

A third goal is that of building school capacity to support standards-based teaching and learning. This goal will be accomplished by providing professional development for teachers, principals, guidance counselors, school improvement team members, business partners, and families to align their school improvement plans with the goals of PRIMES. Middle and high schools are identifying how students will show proficiency in mathematics and science, as well as in other core areas. An objective of this initiative is to align the diploma system and PRIMES to strengthen administrative, family, and business support for teachers and staff.

The benchmark for this goal includes each school having school improvement plans that address and support standards-based teaching and learning, that support the implementation of the GLEs/GSEs, standards-based mathematics and science programs, and applied learning opportunities from businesses that are aligned with the goals of PRIMES.

Knowing that no one individual or partner can accomplish the task of getting all students to high standards, another objective is to nurture a 6-16 partnership to assist with this task. Building a support system to tackle the problem of getting all students to learn rigorous mathematics and science enhances the likelihood of accomplishing this goal.

A long-term goal is to strengthen and increase the partnerships between schools, the institutions of higher education, businesses, families, and other organizations. The intent of this goal is not to simply increase the number of partnerships that exist among the schools but rather to make those partnerships more effective and meaningful, thus making the responsibility of educating students the task of all community members. A benchmark for success will be the teachers' use of this partnership to improve their ability to teach mathematics and science.

Criteria for Participation:

This competition is designed to assist middle and high schools in the same district to use data to analyze student performance, engage teachers, administrators, higher education faculty, families, business partners, RIDE and other partners in professional development that will focus on enhancing mathematics and science education in their schools, build and/or strengthen family support for student achievement, and build partnerships among the schools, institutions of higher education, and businesses. Based on research and experience the following conditions for participation must be met:

For Middle and High Schools

- Schools must have a commitment from at least 90% of their mathematics, science, technology, special education and Limited English Proficient teachers and guidance counselors and demonstrate evidence of their willingness to actively participate in all of the PRIMES professional development and identified activities.
- Administrators must be part of the reform process and actively participate and learn how to support their teachers and build community support for this partnership. Administrators will engage in professional development focusing on enhancing leadership in schools.
- Schools must be ready for change and embrace this partnership as a way to address: the PBGR and the high school diploma system, the goals identified in the Mathematics and Science Partnership, and accomplish some of the goals in their school improvement plan. The school improvement team (SIT) members should endorse the school's involvement in PRIMES.

- Faculty from the mathematics and science departments, guidance counselors, and administrators are committed to extending the existing school day to work on accomplishing the goals of PRIMES (Teachers and Guidance Counselors will be compensated for the extra time.)
- Participating schools must demonstrate a willingness to modify the existing school day and normal operation of schools to provide a more flexible structure for teachers, guidance counselors, principals, families, businesses, and higher education faculty to enhance the teaching and learning of mathematics and science to get all students to perform at high standards.
- Participating schools must demonstrate a willingness to be reflective with implemented programs, instructional strategies, and assessment tools and take steps to address any existing barriers to educating all students successfully.
- Participating schools must demonstrate a willingness to work with organizations, higher education faculty, and businesses, to better understand the demands that will be required of workers in the 21st century.
- Mathematics and science faculty, guidance counselors, and principals work with families through Mathematics and Science Family Nights, Adult Education programs, and other means to strengthen family commitment and support for their children to engage in rigorous mathematics and science classes.
- Schools must show the alignment of their work with the PBGR and High School Diploma System to their engagement in PRIMES.
- Middle schools and high schools within the district must apply together. Since PRIMES is a secondary reform effort, at least 1 middle school and 1 high school from the same district must submit a joint proposal addressing how they will accomplish the identified goals of this initiative throughout grades 6-12.
- Applicants must be able to demonstrate through the grant application that the entire school system will support standards-based teaching and learning and implement the mathematics, science and English language arts Grade-Level Expectations (GLEs) and Grade Span Expectations (GSEs) for all students in grades 6-12.
- Applicants must show how they will continue to work with mathematicians, scientists, business members, and educators from higher education beyond the three-year period of PRIMES.
- Since the MSP funds must be used for professional development and cannot be used to purchase materials or programs, applicants must show how the MSP funds

will leverage other resources to provide for any necessary materials, programs, and other resources needed to accomplish the identified goals.

- Districts must spend their PRIMES funds to implement the activities outlined in this RFP.

For Institutions of Higher Education

- Faculty members from the mathematics, science and/or engineering departments must sign a commitment to work with middle and high school teachers and RIDE staff to address the goals of PRIMES. Faculty members from the education department may also work with mathematicians, scientists, and engineers.
- Faculty members must devote 36 days (25 days of direct service to teachers and 11 days of collaborative work with other faculty members, business members, families, and RIDE staff) to PRIMES activities.
- Participating faculty members must be knowledgeable of standards-based teaching and learning and use scientifically based research to provide professional development, in class modeling, coaching and mentoring to the middle and high school participants to enhance their ability to teach standards-based mathematics and science to all students.
- Participating faculty will work with RIDE staff, participating faculty members from other colleges and universities, and business partners to plan, assess, and refine the professional development being offered to the middle and high school participants.
- Participating faculty will use materials and knowledge gained from PRIMES in their pre-service teacher education, mathematics, and/or science classes.
- Participating faculty will share experiences and lessons learned from PRIMES with other faculty members and use it to enhance their teacher education programs.
- Institutions of higher education must show how they will continue to partner with middle and high schools to enhance the teaching and learning of mathematics and science beyond the three-year period of PRIMES.

PROGRAM DESIGN

Vision:

This proposal will focus on engaging middle and high school teachers, guidance counselors, principals, higher education faculty, business partners, and families in professional development that will address issues concerning the implementation of the Statewide Curricula, the PBGR High School Diploma System, the understanding of how

students learn mathematics and science, standards-based mathematics and science instruction and assessment methods, and business and family partnerships to improve the teaching and learning of mathematics and science.

It is the partners' epistemological belief that students need to build their understanding of mathematics and science through active engagement in learning and use information processing to make sense of what they are learning. That is, students interpret and use information based on what they already know. Students reflecting on their thinking and solutions give way to students analyzing their work and learning from their thinking. This enables students to challenge their solutions, make decisions and take other paths for finding alternate solutions. To accomplish this task, we need to engage teachers, guidance counselors, and administrators in professional development that will teach them how to effectively teach mathematics and science for all students to gain mathematical and scientific understanding. "Effective teachers are those who can stimulate students to learn mathematics and [science]. Educational research offers compelling evidence that students learn mathematics and [science] well only when they construct their own mathematical [and scientific] understanding." (Professional Teaching Standards, p.2) It is crucial that all teachers and administrators focus on teaching all students high levels of mathematics and science.

"Educators in tomorrow's schools must put aside two fundamental misconceptions of learning and teaching. The first is that teaching is telling, knowledge is facts, and learning is accumulation and recitation. The second is that basic skills develop before 'higher order skills' and must be taught first." (Holmes Group, 12, p.1) Conceptual learning is supported through lessons that address content, engage students in a task or problem and summarize the lesson learnings.

Plan:

The following implementation plan will identify how the goals of PRIMES will be accomplished. (See timeline of partnership activities.)

The large framework of the plan is to have the schools become a learning community and, with the assistance of other members of the learning community, focus on enhancing the teaching and learning of mathematics and science for all students at their school. Teachers will work with higher education faculty, business partners and informal education organizations to identify and implement relevant problems for students to solve. These problems will require students to apply mathematical and science content knowledge and skills and use technology. The goal is to entice students to actively engage in the learning of mathematics and science.

The school as an entity will look at its school improvement plan, state and federal mandates and requirements, and other factors as it determines what it must do to become an effective learning community. Knowing that families are a critical component in the education of students, information and support sessions for adults will be conducted to assist families with their role in supporting their children to graduate from high school. To this end, PRIMES will work with Adult Education Programs at the participating

middle and high schools to work with families in how they can encourage and support their children.

Since research has shown that the highly effective mathematics and science teachers have deep content knowledge and strong pedagogical knowledge (NCTM, 2000 and National Commission on Mathematics and Science Teaching for the 21st Century, 2000), providing on-going professional development for teachers, guidance counselors and administrators to increase their knowledge and skills is another aspect of the plan. Research has also shown that to be effective, professional development needs to be on-going and sustained over time, job-embedded and focused (Sparks, D. & Hirsh, S., 1997).

The professional development offered in this initiative will focus primarily on three approaches, well-designed training programs that incorporate ways to apply mathematics and science concepts to real world and business situations, involvement in the process to improve mathematics and science education, and observation and feedback to better make instructional decisions. Each summer the participants will engage in a one or two-week professional development session addressing such issues as alignment of standards to curriculum, implementing standards-based mathematics and/or science programs, using real life problems to make learning relevant to students, assessing student progress and using student work to make instructional decisions, increasing teachers' content and pedagogical knowledge, and increasing teachers' knowledge of how students learn mathematics and science. Teachers and faculty will engage in professional development with business partners to enhance their knowledge and skills to engage students in real world applications, as well as, sessions with families to address how they can support their children.

These intense summer sessions are followed up with school-based professional development provided by teacher leaders, higher education faculty members, business members, and RIDE mathematics, science, and technology specialists and through on-line learning. It is the intent of this initiative for each school to find common time beyond the school day once a week where teachers and partners engage in professional development at the school site. Along with the site-based, summer, and on-line professional development, teachers, administrators and guidance counselors will meet for four daylong sessions with other participating schools as part of the PRIMES network to explore and address issues relating to the goals of this initiative.

The focus for the first year is to:

- Work with all partners to identify the present situation and develop a systemic approach for working together.
- Work intensely with the middle school and high schools and develop vertical articulation and teaming for all stakeholders to learn about mathematics and science instruction in grades K-12.
- Work with business, institutions of higher education, informal education organizations, and others to identify the roles and responsibilities of each partner.
- Prepare families for their participation in PRIMES.
- Build and identify student and stakeholder responsibility for student learning.

- Assist schools in aligning state and federal requirements with PRIMES.
- Introduce engineering and other applied learning problems into classes.

During years 2 and 3 the focus will be to:

- Identify and implement standards-based mathematics and science curricula, exemplary teaching strategies, and aligned assessments.
- Use relevant situations to entice students to engage in rigorous mathematics and science learning.
- Continue to build strong family roles in their children's education.
- Continue to work with business partners to make learning relevant for students and teachers.
- Support school and central administrators to enhance their ability to be educational leaders.

To support each of the participating schools, each district needs to have key people responsible to coordinate and implement various aspects of the initiative. Within each district a curriculum director and mathematics and science coordinators will need to play active roles in leading the process of implementing statewide curricula, aligning district mathematics and science curricula with identified grade-level expectations (GLEs) and grade-span expectations (GSEs), as well as to support the process for selecting, adopting, and implementing standards-based mathematics and science programs and applied engineering tasks. RIDE staff will work with districts to support them in this effort.

Using technology to enhance the teaching and learning of mathematics and science is an ongoing effort for Rhode Island. Through video streaming, teachers will have access to teaching demonstrations conducted in middle school and high school classrooms. These lessons exemplify effective teaching strategies and will be used to focus faculty discussions on student learning, instructional strategies and the mathematics and/or science content of the lesson. Some of the sessions were videotaped in Rhode Island and will showcase some of the students in the participating middle and/or high schools, while other sessions were taped in various states throughout the country. Other professional development opportunities through partnerships with businesses and other community organizations will provide extensive opportunities for teachers to open their classroom doors to the universe and provide extensive opportunities for students to integrate their learning with real life problems.

It is anticipated that changes at all levels of this partnership will result in institutional changes such as the following:

- School districts of each of the participating schools will look to implement strategies and materials used in this initiative in other content areas to build a sustainable system for improving teaching and learning in all areas across all schools.

- The institutions of higher education will have a stronger presence at the 6 -12 level and will continually look to revising their teacher preparation programs and offerings.
- Local businesses and informal education organizations will play an active role supporting schools/districts and institutions of higher education to make learning relevant for students.
- Families will play an active role in their children's education.
- RIDE will make stronger links between 6-12 educators and higher education faculty and address issues with a K-16 focus.

The Support Provided:

Applicants must address the types and extent of support the PRIMES will provide to its participating schools along the following dimensions:

- 1) **External Consultants:** Every school within PRIMES must be able to individually access help from critical friends outside of its building. These consultants will include higher education mathematics and/or science faculty, mathematicians, scientists, business partners, RIDE staff and others with expertise, experience and relational skills who are likely to be welcomed by school practitioners. The school/district must identify a higher education faculty member from the arts and sciences department who will support the efforts of this initiative.
- 2) **Time:** Money must be budgeted to accommodate for release time and extended time of participants to engage in PRIMES professional development throughout the year and summer, meet with higher education consultants, engineers, scientists, business members, guidance counselors, families, and other mathematics and/or science teachers within their own schools to discuss their mathematics and/or science instructional programs, student achievement, and other issues addressing the goals of PRIMES. The schools need to budget for teacher stipends to attend summer and extended day activities, substitutes to cover classes, and any other expenses related to enabling staff and families to participate in the professional development associated with PRIMES.
- 3) **Materials:** PRIMES funds may not be used to purchase classroom materials; however funds may be used to provide materials necessary for teachers and partners to engage in professional development for PRIMES. The district/school must show how other funds will be used to purchase standards-based mathematics and science programs and materials if they do not presently have them.
- 4) **College Credit:** Professional development credit through RIDE and/or college credit will be available to all participants.
- 5) **Evaluation:** All participants must agree to participate in evaluation activities that will be conducted by an evaluator approved by RIDE. Requested data must be

provided in a timely manner. Failure to do so will jeopardize individual and/or school continued participation in PRIMES.

- 6) **Connection to Partners:** Higher Education faculty must be an integral and tangible partner in PRIMES. Schools must work with higher education faculty to address the goals of this initiative. Active business and family partners must also exist to support and promote mathematics and science education through real life applications.

Project Period:

September 30, 2006 to August 31, 2009

Eligible applicant must be a High-Need School District as defined on the cover of this request for proposal and a mathematics and science department from an institution of higher education agreeing to work as partners to address the goals of PRIMES. Other partners who can be included in your proposal include higher education faculty from the education department, informal educational organizations, and business members.

Uses of Funds:

The focus of the Title II, Part B funds is for professional development activities. A partnership shall use the funds provided to pay for the professional development activities identified in PRIMES, coaches, consultants, required professional development materials, and other activities outlined in PRIMES, which include, but not limited to, the following:

- Higher education consultant/coach
- Mathematics and science professional development materials
- Substitute coverage
- Teacher stipends
- Expenses that occur for professional development and partnership meetings and expenses
- Other necessary expenses to achieve the PRIMES goals

Funds **may not** be used to purchase classroom sets of materials or equipment.

PROJECT RESULTS

Upon the completion of this project it is anticipated that the following will be accomplished:

AT THE STUDENT LEVEL

1. Student performance on the state assessment will improve according to the state's guidelines on annual measurable objectives (AMOs).
2. Students will be able to explain and assess their work against relevant mathematics and science GLEs/GSEs.

AT THE TEACHER LEVEL

1. Teachers will have stronger mathematics and science content knowledge as demonstrated through the ETS Middle or High School Praxis Mathematics and Science Tests. Teachers will engage in over 100 hours of professional development each year of the grant.
2. Teachers will implement standards-based mathematics and science programs and assessment tools.
3. Teachers will work with business members, families, and other partners to provide relevant learning opportunities and a strong community that will be responsible for the education of all students.
4. Teachers will be flexible with regard to the structure of the school day to enhance their ability to educate their students.
5. Teachers will work with colleagues to enhance their own teaching skills.
6. Teachers will participate in an evaluation study.

AT THE SCHOOL LEVEL

1. An alignment of statewide curricula and GLEs and GSEs to district curricula and mathematics and science programs.
2. Grade 6-12 articulation across schools to address mathematics and science education with a shared vision of standards-based programs.
3. Models and strategies to support all children within their school through collaboration with all teachers and guidance counselors, partnerships with business and community partners, as well as, supporting families through Adult Education classes at the school site.
4. Teachers will report increased knowledge of expectations for students in all grade levels in addition to the one they teach, as well as across content areas.
5. Establish a set of guidelines for standards-based leadership (i.e., how do standards-based administrators and teacher leaders work?)
6. An alternate model of the school structure to accommodate for staff within the school to work together, school staff to work with community partners, and to work with students.
7. A plan to continue and expand the work that was started with PRIMES beyond the three years of this initiative.

AT THE PROJECT LEVEL

1. There will be increased student achievement on the state assessments.
2. Standards-based mathematics and science programs will be in all classrooms.
3. There will be improved teacher quality at all PRIMES schools.
4. Teachers will engage in long-term, on-going professional development.
5. There will be a lasting partnership between faculty from institutions of higher education, businesses, families, and schools/districts.
6. Institutions of higher education will enhance their teacher education and mathematics and science programs.
7. There will be alignment between statewide curricula, GLEs/GSEs, district/school mathematics and science curricula, high school diploma system, and other state and national initiatives.

8. Support implementation of standards-based programs and assessment.

Proposal Requirements:

Each proposal submitted must include:

A. Evidence of Meaningful Partnerships: Partnerships that exhibit characteristics including, but not limited to the following:

- (1) **Sustainability:** A partnership must demonstrate an ability to maintain the targeted activities beyond the length of the project and a description of how the partnership will continue the activities funded under this proposal after the original grant period has expired.
- (2) **Commitment:** Evidence of active long-term planning and participation of all partners must be documented.
- (3) **Capacity:** Evidence of the number and quality of staff to carry out the proposed activities and the institutional resources to support the activities must also be included.
- (4) **Unlimited Restrictions:** Evidence of a plan that foregoes present school day structure to provide effective teaching and learning for all students. (May include changes in length of school day and school year for just staff or for staff and students.)

B. Needs Assessment: The results of a comprehensive assessment of teacher quality and professional development needs, with respect to the teaching and learning of mathematics and science of any school district or schools that comprise the eligible partnership.

C. Project Plan that Meets Identified Needs: Implementation of PRIMES (See Timeline) includes assurances that **all** mathematics and science teachers, guidance counselors, principals, and other key staff at the middle and high schools engage in the professional development identified in this initiative and any other professional development that will enable the school to achieve the goals of PRIMES. Proposals must address the following requirements and may include additional professional development that may be appropriate for their specific situation.

- Professional development in mathematics and science content for teachers, standards-based curricula, instruction and assessment to enhance teacher quality through
 - One or two-week summer institutes each of the three years
 - Four daylong sessions throughout the school year
 - Longer school day for staff one day a week
 - Higher education, business, or informal education school consultants
 - On-line video streaming and courses
- Implementation of standards-based mathematics and science programs for all students
- Application of mathematics and science concepts through real life problems using appropriate technologies when necessary

- Partnerships with families, businesses, mathematicians, and scientists to provide a unified support system that focuses on all students graduating from high school
- Using data to drive decision-making

D. Research Base:

PRIMES has identified the USDOE recommended exemplary and promising mathematics and science programs as the standards-based mathematics programs to be used by all of the schools. The professional development models used in PRIMES are based on the National Staff Development Council's standards for exemplary professional development for middle and high school teachers.

E. Evaluation and Accountability Plan:

RIDE will contract with an external organization to conduct the evaluation of PRIMES. The evaluation will include an analysis of student performance and achievement on the New England Common Assessment Program (NECAP), which is Rhode Island's state assessment, and CTB McGraw Hill's Balanced Assessments Tests. Progress towards improving teacher quality will be measured by the ETS Mathematics and Science Teacher Tests and other teacher assessment tests when ready (William Bush at the University of Louisville is developing a content knowledge test for middle school teachers.) Teachers will be administered the assessments prior to participation in PRIMES and as a posttest at the end of PRIMES. Documentation showing the number and kinds of professional development participants engaged in over the course of PRIMES will be compiled.

F. Sustainability: Each proposal has to include a written description of how the efforts and partnerships started in this initiative will continue after the original grant period has expired.

Preparation of Application

Listed below are the required components, in the order they should appear, of an acceptable application. The narrative sections of the proposal must be double-spaced and the font used not smaller than 12-point.

- A. **Cover Page:** Use the form provided in Appendix A
- B. **Assurances:** Use RIDE's assurance page provided in Appendix B
- C. **Partnership Agreement:** Each application must include:
 - 1) A Partner Identification Form (see Appendix C) for each partner and
 - 2) A letter of commitment from each partner providing evidence that the proposed activities of PRIMES will be implemented as described in the proposal.
- D. **Results of Needs Assessment:** This section will identify and prioritize baseline professional development needs of teachers in partner school districts and include the number of teachers in these districts who do not meet the state's definition of

a highly qualified teacher, disaggregated by subject area they teach. This baseline information must be determined using a current (within past 12 months) assessment of teacher quality and professional development needs. This section will also include a description of the methodologies used to collect this information.

- E. **Abstract:** Provide an abstract that briefly and concisely describes your expectations for how your participation in PRIMES will benefit the teachers and students in the participating schools. The abstract may not exceed 250 words.
- F. **Project Narrative and Timeline:** Use PRIMES work plan and timeline and add any professional development needs specific to your schools.
- G. **Bibliography:** Use PRIMES bibliography and any other resources you want to cite.
- H. **Description of the Program's Alignment to State Content and Professional Development Standards:** Use PRIMES description.
- I. **Evaluation and Accountability Plan:** RIDE will contract with an outside organization to conduct the evaluation.
- J. **Budget:** Include a three-year project budget (see Appendix D) in the application.
- K. **Budget Narrative:** The budget narrative should describe the basis for determining the amounts shown on the project budget page. Both the project budget and the narrative description should be aligned with the activities described in PRIMES and should reflect any coordinated uses of resources from other sources.
- L. **Appendix:** The proposal appendix should include the following documents:
 - 1) A partnership identification form (see Appendix C) for each partner;
 - 2) Letters of commitment from each partner; and
 - 3) Participant signature page (see Appendix F).

VI. Proposal Submission and Review

A. Submission: Applicants must submit an original and four copies of the full proposal to the Rhode Island Department of Education. The original must include an original signature of the Superintendent of Schools on the cover page. Proposal must be postmarked by or received by **June 16, 2006**.

Mail proposal to:

**Rhode Island Department of Education
255 Westminister Street
Providence, Rhode Island 02903
ATTN: Lisa Vieira**

B. Review Process: A review panel will evaluate applications in light of the requirements specified in the proposal. The review panel's scores and recommendations will be the primary determinant of successful proposals. The review criteria are as follows:

Criteria	
Commitment and Capacity of Partnership	20 points
Demonstration of Need	20 points
Alignment of Project Goals and Objectives with Prof. Dev. Needs	30 points
Plan for Sustainability	20 points
Budget and Cost Effectiveness	10 points

VII. Award Administration

A. Notification of the Award: Within two weeks of application deadline.

B. Award Conditions: While this is a three-year initiative, continued eligibility for years 2 and 3 are contingent upon each applicant's fulfillment of PRIMES's goals and objectives. All awards beyond year 1 are also contingent upon this program receiving funding through the U.S. Department of Education and upon the State's evaluation of the funded programs.

C. Reporting Requirements: Each eligible partnership receiving a grant must engage in all components of the evaluation process and submit required reports.

PRIMES 3 Year Time Line of activities

Teachers and administrators from middle and high schools will engage in on-going professional development to enhance their ability to provide standards-based mathematics and science instruction to all students. Community partners will play a vital role in assisting schools accomplish this goal.

Year 1 - September 30, 2006 - August 31, 2007

Description	When	Project Staff	Advisory Committee	Higher Education	Business	Guidance Counselors	Admin.	Families
Advisory Committee convenes to review proposal, set goals and outline deliverables.	Nov. - Dec. 06	X	X					
Project staff meet with all schools to review proposal and outline work ahead.	Nov. - Dec. 06	X				X	X	
Schools conduct a self study and identify priority goal to address.	Nov. - Dec. 06	X				X	X	
Teachers engage in 3 daylong professional development sessions with project staff and partners.	Nov. 06, Feb. & Apr. 07	X		X	X	X	X	
Project staff, Higher Ed. Faculty, & Business design PD with schools.	Ongoing Nov - Dec. 06	X		X	X	X	X	
Project staff and higher ed. Faculty, & business plan summer professional development with schools	Jan - Mar. 07	X		X	X	X	X	
Teachers and staff meet weekly for site-based PD.	Weekly beginning Jan 07					X	X	
Project staff work with schools and adult education program to develop family sessions.	Jan. - Mar. 07	X			X	X	X	X

Description	When	Project Staff	Advisory Committee	Higher Education	Business	Guidance Counselors	Admin.	Families
Project staff meet with all partners to plan support for schools for the upcoming year.	Mar. - May 07	X		X	X	X	X	X
Schools host informational sessions to share PRIMES work with families.	Ongoing throughout the year.	X		X	X	X	X	X
All partners engage in summer PD.	July-August 07	X	X	X	X	X	X	X
Advisory Committee meets to analyze and discuss work of project.	July 07	X	X					

PRIMEs 3 Year Time Line of activities

Teachers and administrators from middle and high schools will engage in on-going professional development to enhance their ability to provide standards-based mathematics and science instruction to all students. Community partners will play a vital role in assisting schools accomplish this goal.

YEAR 2- September 1, 2007 - August 31, 2008

Description	When	Project Staff	Advisory Committee	Higher Education	Business	Teachers & Guidance Counselors	Admin.	Families
Advisory Committee meets to analyze and discuss work of project.	Oct. 07 & April 08	X	X					
Teachers engage in 3 daylong professional development sessions with project staff and partners.	Nov.07, Feb. & Apr. 08	X		X	X	X	X	
Project staff and Partners meet to reflect on work and plan work	Monthly throughout the year	X		X	X		X	
Teachers and staff meet weekly for on-site PD	Weekly throughout the year					X	X	
Project staff, higher Ed. Faculty, & Business design PD with schools.	Ongoing throughout the year	X		X	X	X	X	
Project staff work with schools and Adult Ed. to provide sessions for families.	Ongoing throughout the year.	X		X	X	X	X	X
All partners engage in summer PD.	July-Aug. 08	X		X	X	X	X	X

PRIMES 3 Year Time Line of activities

Teachers and administrators from middle and high schools will engage in on-going professional development to enhance their ability to provide standards-based mathematics and science instruction to all students. Community partners will play a vital role in assisting schools accomplish this goal.

Year 3 September 1, 2008 -- August 31, 2009

Description	When	Project Staff	Advisory Committee	Higher Education	Business	Teachers & Guidance Counselors	Admin.	Families
Advisory Committee meets to analyze and discuss work of project.	Oct. 08 & April 09	X	X					
Teachers engage in 3 daylong professional development sessions with project staff and partners.	Nov. 08 Feb. 09 & April 09	X		X	X	X	X	
Project staff and Partners meet to reflect on work and plan work	Monthly throughout the year	X		X	X		X	X
Teachers and staff meet weekly for on-site PD	Meet weekly throughout the year					X	X	
Project staff, higher Ed. Faculty, & Business design PD with schools.	Ongoing throughout the year	X		X	X	X	X	
Schools host informational sessions to share PRIMES activities with families.	Ongoing throughout the year	X				X	X	X
Project staff work with schools and Adult Ed. to provide sessions for families.	ongoing throughout the year	X				X		X
All partners engage in summer PD.	Jul. - Aug. 09	X	X	X	X	X	X	



Peter McWalters
Commissioner

State of Rhode Island and Providence Plantations
DEPARTMENT OF EDUCATION
Shepard Building
255 Westminster Street
Providence, Rhode Island 02903-3400

**Application For 2006-2009 Mathematics and Science
Partnership (MSP) PRIMES**

Applying District:	
Program Title: PRIMES	
Contact Person:	
Name:	
Title:	
Address:	
City, State ZIP	
Telephone:	Fax:
Email:	
Amount of MSP Funds Requested: \$	
Number of Teachers to be Served Directly	

Certification by Authorized or Institutional Official:

The applicant certifies that to the best of his/her knowledge the information in this application is correct, that the filing of this application is duly authorized by the governing body of this organization, or institution, and that the applicant will comply with the attached statement of assurances.

_____ Typed or Printed Name of Authorized Official	_____ Title
_____ Signature of Authorized Official	_____ Title

Title II, Part B Math Science Partnerships (MSP) PRIMES

Statement of Assurances**GENERAL ASSURANCES**

In accordance with Section 14306(a) of ESEA, the LEA assures the Rhode Island Department of Education that this single set of assurances applicable to each program for which a plan is submitted provides that:

- a) program funds will be used only to supplement and, to the extent practical, increase the level of funds that would, in the absence of the Federal funds, be made available from non-Federal (State and local) sources for the education of participating students. In no case, may an LEA use Federal program funds to supplant funds from non-Federal sources;
- b) unless and until these requirements are waived, the applicant will continue to comply with all operational requirements of each program. Each program will be administered in accordance with all applicable statutes, regulations, program plans, and applications;
- c)
 - (1) the control of funds provided under each covered program and title to property acquired with program funds will be in a public agency or in a nonprofit private agency, institution, organization, if the law authorizing the program provides for assistance to such entities; and
 - (2) the public agency, nonprofit private agency, institution or organization will administer such funds and property to the extent required by the authorizing statutes;
- d) the applicant will adopt and use proper methods of administering each such program including:
 - (1) the enforcement of any obligations imposed by law on agencies, institutions, organizations and recipients responsible for carrying out each program; and
 - (2) the correction of deficiencies in program operations that are identified through audits, monitoring or evaluation;
- e) the applicant will cooperate in carrying out any evaluations of each program conducted by or for the State Educational Agency, the Secretary of Education, or other Federal officials;
- f) the applicant will use such fiscal control and fund accounting procedures as will ensure proper disbursement of, and accounting of, Federal funds paid to such applicant under each such program;
- g) the applicant will:
 - (1) make reports to the State Educational Agency and the Secretary of Education as may be necessary to enable such agency and the Secretary to perform their duties under each such program;
 - (2) maintain such records, provide such information, and afford access to the records as the SEA or the Secretary may find necessary to carry out the SEA's or the Secretary's duties; and

- h) before the application was submitted, the applicant afforded a reasonable opportunity for public comment on the application and has considered such comment.

CIVIL RIGHTS ASSURANCES

All recipients of assistance under this grant shall comply with the following Federal and State civil rights statutes and regulations:

- (a) 42 USC, Sections 1981 and 1983 (...acts prohibited on the basis of race);
- (b) Title VI and VII of the Civil Rights Act of 1964 (...acts prohibited on the basis of race, color, religion, sex, or national origin);
- (c) Title IX of the Education Amendments of 1972, as amended, 20 United States Code 1681 et. Seq. (acts prohibited on the basis of sex);
- (d) 42 USC, Section 1601 et eq. (...acts prohibited on the basis of age);
- (e) Section 504 of the Rehabilitation Act of 1973, as amended, 20 USC 794 (...acts prohibited on the basis of handicap);
- (f) 24 USC, Section 12100 et seq. [The Americans with Disabilities Act] (...acts prohibited on the basis of disability);
- (g) Section 16-38-1 of the Rhode Island General Laws, as amended (discrimination because of race or age);
- (h) Section 16-38-1.1 of the Rhode Island General Laws, as amended (discrimination because of sex);
- (i) Chapter 42-87 of the Rhode Island General Laws, as amended (Civil Rights of Individuals with Handicaps); and
- (j) Sections 28-5.1-13 and 28-5.1-14 of the Rhode Island General Laws, as amended (Private education institutions - compliance with state policy of non-discrimination and affirmative action).

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - LOWER TIER COVERED TRANSACTIONS

This certification is required by the Department of Education regulations implementing Executive Order 12549, Debarment and Suspension, 34 CFR Part 85, for all lower tier transactions meeting the threshold and tier requirement stated at Section 85.110.

Certification:

- (1) The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Title II, Part B Math Science Partnerships (MSP) PRIMES

Higher Education Partner Identification Form

Include a Partnership Identification form for each of the partner institutions/organizations.

PARTNER INSTITUTION _____

Primary Contact

Name:	
Title:	
Address:	
Telephone	Fax:
Email:	
Type of Institution/Organization:	

Title II, Part B Math Science Partnerships (MSP) PRIMES

Budget Summary for year 1**District:** _____**School:** _____**Project Period:** September 30, 2006 – August 31, 2007 _____

Series & Account	Budget
100 Salaries (Professional, clerical & teacher stipends)	\$
200 Fringe Benefits	\$
300 Purchased Services	\$
400 Supplies/Materials	\$
600 Other	\$
Total	\$

Title II, Part B Math Science Partnerships (MSP) PRIMES

Budget Summary for year 2**District:** _____**School:** _____**Project Period:** September 1, 2007 – August 31, 2008

Series & Account	Budget
100 Salaries (Professional, clerical & teacher stipends)	\$
200 Fringe Benefits	\$
300 Purchased Services	\$
400 Supplies/Materials	\$
600 Other	\$
Total	\$

Title II, Part B Math Science Partnerships (MSP) PRIMES

Budget Summary for year 3**District:** _____**School:** _____**Project Period:** September 1, 2008 – August 31, 2009

Series & Account	Budget
100 Salaries (Professional, clerical & teacher stipends)	\$
200 Fringe Benefits	\$
300 Purchased Services	\$
400 Supplies/Materials	\$
600 Other	\$
Total	\$

Title II, Part B Math Science Partnerships (MSP) PRIMES

Budget Summary 3 Year Request**Name of Partner Organization:** _____

On this form, list only the funding this partner will receive from the grant.

Direct Cost Requested for Partner	YR 1 9/30/06- 8/31/07	YR 2 9/1/07- 8/31/08	YR 3 9/1/08- 8/31/09	TOTAL
100. Salaries & Wages, (Professional, clerical & teacher stipends)				
200. Employee Benefits				
300. Consultants and Contracts				
400. Materials and Supplies				
600. Other (printing, travel in state, travel out of state, etc.)				
Total Funding to Partner From Grant				

District: _____

High School: _____

[illegible]

District: _____

High School: _____

[illegible]

District: _____

School: _____

[illegible]

Community Partners Signature Page
(Business, families & others)

District: _____

School: _____

[illegible]